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"A Poor Scholar . . . because of a Poor Breakfast"

MANY a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, — or less — small wonder that he is listless, nervous, or stupid at school.

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Vol. XIV FEBRUARY, 1944 No. 2

EXPERIENCES IN ACTIVATING A HEALTH EDUCATION PROGRAM

GLADYS P. SHAHOVITCH, M.D.
Supervisor of Health, Los Angeles City Schools

For years we school physicians have looked at the citadel of education and hoped and prayed and struggled that health education might receive its proper place in the educational scheme of things. The older minds, bearing in mind that senility is not necessarily chronological, change slowly and have valiantly defended the established order, especially as it relates to curriculum.

But the young teacher! There is the challenge. The young teacher has had health education during his professional training. He enters his new assignment with the enthusiasm of youth. There is the golden opportunity for the school physician; learning to know the young teacher and stimulating and activating his interest in school health. The young teacher should have a wholesome selfish ambition to advance in his profession. Some day he may be a principal or superintendent. Let him realize that in these days of increased social consciousness and wider understanding of health needs of our people, health knowledge and interest are undoubted prerequisites of educational advancement.

What can a school doctor do to guide and develop the health interest of these teachers? First let them realize that it is THEIR program. Stimulate reading and discussion. Keep well up on the subject of health yourself and mention books and articles to them. Guide them away from popular articles which too frequently lack proven knowledge. The pamphlet list in the *American Medical Association Journal* should be faithfully looked over to see if there is anything of value for your teachers. Read the book reviews and if interesting, call the teachers' attention to the review. Keep in touch with all public health agencies, get the local and state health reports and pass them on.

And while the school doctor is adopting the youthful physical education teacher, let him evaluate the science teacher. The advertising material that you are throwing in the waste basket may have just the article that the science teacher needs. Think of the ines-

timable value of the article "Invasion—Tropical Diseases" in the September number of *Squibb's Memoranda* in the hands of a science teacher.

In several of my schools where the health program has been most successful and for which credit has been given to the school physician, the success of the program has, in the main, been due to the enthusiasm and initiative of the younger teachers, the school physician functioning for the most part in an advisory capacity.

Several ambitious physical education teachers in a local junior high school chose "School Attendance" for a term paper in connection with a university extension course in health education. One man and one woman from the Physical Education Department obtained permission to supervise readmission of absent students as regards health. With a student secretary to take notes, they interviewed every child returning from an illness. They took his temperature and if it were 99% or over, he was sent home. They arranged noon rest or nutrition for the child returning who had not entirely recovered his strength. They learned to recognize the skin rashes of the communicable diseases.

So many came back with upset stomachs! There must be a reason they argued. Could it not be a matter of water or food borne infection? A spot map was made and they studied every case and district. They checked the number of cases in the family and where the food was purchased. It became very complicated, for the family frequently bought the food here and there as prices or appeal decreed. And yet the child who never had an upset stomach came from the same district and bought food here and there, too.

They then discovered that the child with the upset stomach had this strange malady more frequently on Mondays after a weekend at the beach or movies, malt shops, hot dogs, and late hours. And these were the students who never selected food wisely at the cafeteria and always had candy. They reasoned: the food source is not to blame but the food selected. The student had an upset stomach because he had never been taught to eat properely. They also planned a health education program to meet the needs of these young people. And because the teachers were young and full of vim and fun themselves, it went over BIG.

In readmitting, they found that colds were more frequent in youngsters with bad health habits. A health program was set up to reduce the incidence of colds. The same was done for menstrual pains. The program was going in high gear, but they were anxious for a still more comprehensive attack on the health problems of

youth. Acne and athlete's foot in relation to student health habits were added, and then a study of nail-biting was initiated as effected by coffee, cokes, movies, mystery stories, unhappy homes, lack of nail care, and poor food. It was slow work, but results came.

By the time the term paper was finished, the readmitting of the sick by these teachers was a permanent part of the program. The attendance supervision was vital to the administration.

The school doctors in this junior high school have been helped immeasurably by this method. When Mary, who has a poor attendance record, is brought to the doctor for physical examination, the history card prepared by the student secretary comes, too, for example:

Mary Brown readmitted—

September 25.	Absent 7 days.	Cold.
October 15.	Absent 2 days.	Sore throat.
October 30.	Absent 5 days.	Upset stomach.
November 15.	Absent 1 day.	Menstrual pains.
November 28.	Absent 3 days.	Cold.

In another junior high school, we have a principal who is not only deeply interested in health but wants to be informed himself about all the physical problems of growing youth. All members of the faculty are interested in health. The teacher of dramatics stresses posture. The science teacher is outstanding in her health interest. The social studies teachers very ably integrate the health problems of the community with their subject field. The youthful, enthusiastic gymnasium teachers, however, are the leaders in health education. As medical advisor to this school, it is quite thrilling to be greeted with, "We think we have a swell idea." They hail me and I am all ears. I look forward with pleasurable anticipation to my day in this school.

In another junior high school, one of the teachers has set up a program of first aid and health, making the idea of service the background of the health work. Not just health for health alone, but health for service. That is something to make one think as we sight a new era, isn't it? Promoting this ideal has taken hours of work and constant drill by a competent teacher.

But what if the principal is not interested in health? That makes our task more difficult as most of us know from experience. Some principals may be captured by a program which succeeds and brings unforeseen credit and prestige to his school. After all the greatest satisfactions in life come from overcoming difficulties and the more stumbling blocks which are overcome, the more worth while our achievements.

THE ELIMINATION OF NON-ESSENTIAL PUBLIC HEALTH DUTIES

(Report of another Method for Excluding Communicable Diseases from School)

P. F. LUCCHESI, M.D., M.P.H.,

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In these days of reduced personnel, it is important that health departments remove as many dispensable duties as possible from the responsibility of their staffs. This is especially necessary for the medical members of the staff, since the majority of them are employed on a part time basis. The two or three hours expended daily by a physician in his public health work, should be exclusively devoted to medical and not clerical duties.

It was my pleasure in August 1942 to assume temporary charge of the Division of Communicable Diseases of the Philadelphia Department of Public Health. After a brief study it was apparent that much clerical work was being done by the doctors which could be properly delegated to the clerical staff. It is not my purpose to discuss all the changes introduced, but only that dealing with the method of excluding and readmitting patients with communicable diseases from and to school, respectively.

It must be pointed out, that this innovation was especially aided by certain changes in the rules and regulations of communicable disease control, made by the Advisory State Board of Health in July 1941. These changes specifically affected the five most common communicable diseases; namely, measles, German measles, chickenpox, mumps and whooping cough. They were removed from the list of quarantinable diseases. In other words, it was no longer necessary to confine contacts to their homes for a definite number of days, nor to placard the home of the patient or contact. The quarantining and placarding of homes was a duty of the medical inspector of the Division of Communicable Diseases. One can appreciate how much non-medical work has been eliminated by this change in regulations when one notes that the five diseases mentioned above accounted for almost 83 per cent of the 29,991 communicable disease cases reported to the department in 1942.

Prior to September 1942, the medical inspector was also responsible for excluding from and returning to school every child

afflicted with a communicable disease. It was also his duty to exclude and return to school children exposed to any of these diseases. The exclusion and return of the patient or the contacts was done on special postcards. A card was required for each patient or contact. On many occasions more than one school had to be notified. In addition to this large amount of clerical work, the medical inspector was required to file an epidemiologic chart for each patient, regardless of the nature of the disease. Obviously, during the busy winter and spring months and during an epidemic it was physically impossible for these part-time physicians to attend with equal enthusiasm to a busy private practice and their public health duties. As a result, notification of schools became tardy; epidemiological data were both inadequate and late in arriving at the communicable disease office. Fortunately, the removal of measles, German measles, chickenpox, mumps and whooping cough from the list of quarantinable diseases made it possible to discontinue their investigation. However, it is deemed wise, because of the possible resemblance to smallpox, to investigate reported cases of chickenpox if the patient is 16 years or older, or if any of the above mentioned diseases are questionable diagnostically.

In September 1942 this individual system of excluding and admitting patients to school was abandoned. A new report form was introduced which combined the salient points of the physician's report, the exclusion, and the readmission card. This new form is sent daily, except Saturday, Sunday and holidays to each school involved, from the communicable disease office. The report includes the name and address of the patient or contact, age, sex and school attended; the disease; date of onset, date of exclusion and date of expected return to school. If for any reason, such as a purulent otitis media in scarlet fever, the child can not return on the expected date, the patient's name reappears on the daily exclusion form with another date of return.

In Philadelphia we have two groups of school medical inspectors—those employed by the Department of Public Health, whose duties are in the parochial school system, and those employed by the Medical Division of the Board of Education who are assigned to the public schools. Prior to September 1942, these physicians were not responsible for the diagnosis of communicable diseases. They were permitted to send a child home, if a communicable disease was evident—but it was required that the medical inspector of the Division of Communicable Diseases see and verify this diagnosis before it was recorded as a bona-fide case. However, the same

school medical inspectors could report a private case which was accepted without question. Obviously, this was a useless duplication of effort and a waste of medical energy. It was eliminated by mutual agreement of the Department of Public Health and the Medical Division of the Board of Education. This arrangement has permitted the school medical inspectors to assume about 25 per cent of the present load of excluding communicable diseases.

The introduction of this method of exclusion experienced the usual number of difficulties—some were real—others imaginary. It was soon discovered that many family physicians failed to list the name of the school attended by the patient. As a result, a clerk spent several hours daily telephoning physicians for this information. If the physician did not know the name of the school attended, the medical inspector was required to procure this information. Of course, the name of the school is necessary for contacts as well as patients in quarantinable diseases. The difficulty has been gradually reduced so that it is necessary only occasionally to telephone a physician today for this information. It is well to note that practically all the previously erring physicians are now rendering more complete reports.

We were also confronted with the "recovered case"; that is, the patient who is reported to the Department of Public Health days or weeks beyond the required isolation or quarantine period. In these instances, if it is impossible to determine the nature of the previous disease, the diagnosis of the physician, the nurse or even the parent is accepted after careful history. This is recorded on the exclusion form as "recovered—return now."

There is also the delay produced by the "week-end" case; that is, the patient who develops a communicable disease on Friday, Saturday or Sunday, but the report does not get to the communicable disease office until Monday. This will cause a delay in notifying the school, and could only be corrected by requiring physicians to report by telephone on Friday, Saturday and Sunday, and maintaining an office force on duty Sunday. Since the most common communicable diseases are not quarantinable, this is not a serious problem and should be disregarded.

I believe it can be said that the introduction of this method of "exclusion and return" to school has proved satisfactory. It eliminates clerical duties from the medical staff, thereby giving the doctor more time for epidemiologic data; it saves money in postage by requiring only one letter to each school instead of many postcards; it saves the teacher time by filing only one form instead of many.

* * * * *

Juvenile Delinquency and the War,—This survey is number 51 in a series, British War Psychiatry, compiled from the Staff of the Child Guidance Council. It shows a definite increase in juvenile delinquency since the war began. About one-third of the children referred to a child guidance clinic indicated the greatest increase of delinquent school children had I. Q. 70-85, and a 74% increase of delinquent school children with I. Q. ranging from under 55 up to 85.

The main increase of juvenile delinquency comes from the seriously dull and backward children as they have more drive which is uncontrolled and undirected than those in the more defective group.

Some of the causes to which the increase in juvenile delinquency is popularly ascribed existed prior to the war. In the reception areas normal conditions of social life have been disturbed by evacuees in both homes and schools; in cities, by lack of school facilities. Other causes are: (a) Poverty, bad housing and malnutrition. (b) Evacuation and constant change of environment. (c) Lack of religious and moral teaching. (d) Ever-increasing desire for pleasure on part of older boys and girls. (e) Increasing employment of children resulting in non-attendance at school.

Public interest in juvenile delinquency is increasing, but there is still much loose thinking and sentimentalism rife. The various methods proposed in dealing with this problem are: (1) Raising school leaving age to 15 and compulsory part-time education for older children. (2) Increased interest by local educational authorities in the out-of-chool hours. (3) Reformatories for parents, the children being cared for in welfare centres. (4) The establishment of child guidance clinics. (5) Formation of panels of teachers with special experience in child guidance clinics. (6) Enlightened Juvenile Court procedure. (7) Increase and improved school accommodation. (8) Foster home placement.

One regrets to learn the use of the birch introduced in one area even though this had proved ineffective in the past. Obviously corporal punishment does not deal with the causal factors and until these are adequately recognized and dealt with there will be little essential improvement relative to treatment and what is more important, prevention. There is great need for research to crystallize ideas and build a firm foundation of facts on which future policy may be based. — Abstracted by Frederick L. Patry, M.D.

* * * * *

"CLASSROOM HEALTH SUPERVISORS"

GJERTRUD HJORTH SMITH
Health Co-ordinator, Thomas Jefferson High School
Los Angeles, California

Much has been said and written about making health teaching functional through student participation. The development of this type of health education program has, for a number of years, been one of the self-imposed assignments of the Thomas Jefferson High School Health Committee.

After the committee had spent some time in planning a school-wide program for functional health education, it became evident that what was developing was a program to be inflicted upon the pupils. It had been necessary to have teachers carefully plan and organize the framework of the program, but now it became important to develop means by which the pupils could participate in its administration.

Theoretically, the primary objectives of the program were concerned with desirable changes in pupil choices, habits, and attitudes as they pertain to health, but actually the committee was also concerned with similar changes on the part of members of the faculty. However, because of the notorious sensitivity of teachers in general, it was considered diplomatic not to state this aim and to attempt to arrive at the desired end in a less obvious fashion.

Numerous plans were devised to meet each need, but the most successful plan was the one involving the use of "classroom health supervisors" which helped to meet both needs at once.

One of the most important phases of any health program is that involving the maintenance of a healthful environment. Many teachers, either because of advanced age, poor circulation, lack of health consciousness, pre-occupation, or absentmindedness fail to check frequently to see if their classrooms provide a healthful environment. Pupils, unless they are educated to an awareness of healthful conditions, sit unprotestingly in the overheated, badly ventilated, poorly lighted classrooms of these teachers. The committee (being made up of teachers) was agreed that most teachers have too much to do anyway and that here was an excellent opportunity to develop health consciousness on the part of the pupils and teachers, to insure a healthful environment in all classrooms at all times, and to employ effectively the services of the pupils in the health program. It was decided to ask each teacher to appoint

some alert girl or boy in each class each period of the day to be the "health supervisor" of that class. It would be this pupil's duty to attend to the physical environment of the classroom such as temperature, lighting and ventilation.

Teachers made the appointments and then a meeting of all appointees was held. The "health supervisors" (the imposing title was a big success) were informed of their responsibilities and given instructions, oral and printed, in the accepted standards for a healthful environment, especially as concerned ventilation, lighting, and temperature. They were organized into a group known as the Health Council, and successive meetings were held for them during the semester at which different phases of the health program were discussed. The "classroom health supervisors" were taught what can be done to prevent the spread of colds and other communicable diseases, how to prevent glare, and the proper use of Venetian blinds. They were given previews of coming health events; they were consulted on proposed health campaigns; and they were encouraged to bring their problems as "health supervisors" before the group.

All was not smooth sailing at first, a few enthusiastic youngsters nearly froze to immobility some of the hot-house variety of teachers and the reverberations of the indignant shook academic walls. Other overly conscientious appointees repeatedly disturbed their classes by making adjustments in ventilation and lighting every quarter hour (it had been suggested that they make themselves aware of conditions about every fifteen minutes!). A few were unpleasantly officious in demanding that their colleagues remove their coats and rubbers in the classroom ("or *I'll* take them off you"). However, these difficulties were ironed out and now there are very few such instances.

The practice of appointing "classroom health supervisors" has been followed each semester now for three years, and their activity in the classroom has become an accepted and valuable factor in the health program. Teachers who still dislike the 68-70 degree temperature put on sweaters and no longer are inclined to accuse every movement of air of being a draft. Pupils still must be reminded to remove their coats in the classroom, but they comply with the request with much less argument. The Health Council has served as an excellent intermediary agency between the Health Committee and the student body.

The following bulletin is given to each teacher and "classroom health supervisor":

Health Supervisors

Guidance for Maintaining Healthful Room Conditions

Ventilation:

Movement of air is essential. To secure this open the windows from the bottom and keep hall transoms open at all times. Avoid direct drafts. Venetian blinds should be adjusted so that lower bars deflect air up toward the ceiling.

Humidity:

If the humidity seems low, especially on cold days when building is heated, increase the amount of fresh air and decrease the heat.

Temperature:

Normal health temperature for classrooms is 68-70 degrees. Both the number of persons in the room and the type of activity in which they are engaged are determining factors in maintaining correct temperature. Never adjust temperature by closing all the windows. Regulate by turning radiator on or off and adjusting window openings. Economy in terms of heating is to be encouraged.

Lighting:

Classroom lighting should be adjusted in terms of activities. When reading, writing, sewing, drawing, painting or doing any activity requiring much eye work, maximum illuminaton should be maintained. Guard against glare from the sun. Adjust the Venetian blinds to secure indirect lighting as light changes throughout the day.

* * * * *

REVIEW

First Aid Training, A Study and Practice Book. *Morris Fishbern, M.D. and Leslie W. Irwin, Ph.D.* Lyons and Carnahan, Chicago, 1943, pp. 216.

The material of this text covers the usual first aid scope. It is an improvement over the regular American Red Cross text book (which has not been thoroughly revised for many years) in that it emphasizes the important, ignores the trivial, and has a better sequence of the topics discussed.

At the end of each unit, there is set up a section on Activities —really questions in various forms—and a section on Practical Problems, and a section headed Things to Remember—the last section being really a brief summary of the Unit contents. C. H. Keene, M.D.

* * * * *

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EDITORIALS

One of the articles in this February Journal prepared by a city public health official presents and discusses changes and improvements that have been brought about in a large city in the method of controlling communicable diseases in the schools, and the procedures and notifications of both health department and public schools. Regarding these diseases, the health officials of Philadelphia are to be commended for bringing about this time-saving improvement.

The major item of the article in question has to do with what seems to have been a time-wasting duplication of efforts on the part of school physicians and of the medical inspectors of the city health department.

A ruling or regulation, which required that a child who was diagnosed as having a communicable disease by a school physician while at school had to be visited and rediagnosed by the city medical inspector before the case was officially established as being communicable, but which permitted the same school physician, after having left the school, to make a diagnosis on a case in his private practice which diagnosis was accepted by the health department as final, was formally in effect. This sudden accrual of scientific knowledge and skill upon leaving the school and becoming a private physician is a sort of thing that probably still is going on in some other communities. It would be well for public health officials as well as for those dealing more specifically with the health

of school children to go over their procedures with a view to eliminating such unreasonable time-wasting procedures. At any time, duplication of effort is wasteful. At the present time, with our shortage of physicians and trained health officers, it is deplorable. The new regulations accept the school physician's diagnosis even when made as a part of his school activities.—C. H. K.

* * * * *

Is it not possible—especially in view of the serious shortage of physicians and nurses—to reorganize our procedures in school health services in such a way as to authorize and to encourage classroom teachers to do some of the things now done by physicians or nurses. This suggestion is made although we realize that there is some shortage in the number of teachers, too.

So far as possible, clerical work which does not need a background of technical information, should be done by persons other than physician, dentist, or nurse. In this particular, too, we should examine our procedure to be sure that it is not cumbersome nor demanding unneeded clerical service or record keeping. Record keeping piles up on a health procedure, just as it does in other activities. A seeming need appears. We devise a new blank, involving more clerical work and other expense. Are we sure this fills a real need? Is it a permanent need? Can it be substituted for some recording already in use? While we are at it, why not go over our (usually numerous) blanks and reports, and try to discard some for which a real need no longer exists? What is done with all the statistical records we keep and store in dead files?

Is there some part of the physical examination that can be made by some one other than the physician, dentist, or nurse? It requires no great skill or learning to take height and weight measurements. In some states the law requires that tests of the acuity of vision be made by the classroom teacher. This procedure might well be spread to practically all communities. It does not require years of special training in medical school or hospital to make these tests with sufficient accuracy, especially since, in practically all cases, it is merely a screening process to be succeeded, if deviation from normal is found, by an intense diagnostic examination by the oculist as a basis of prescription or treatment. The testing of hearing falls in a similar situation. To be sure many schools use the audiometer, but those that do not might well relieve physicians and nurses of a time-consuming procedure that often results in little value to the child, either physically or educationally.

The above are merely suggestions, made with a view to stimu-

lating health service officials into an intensive study of their school health procedure; a study that might lead to discarding outworn or useless activities, to a simplification of records, or possibly into some new device that will be both time saving and of health value. —C. H. K.

* * * * *

ABSTRACTS

Treatment of Infantile Cerebral Palsy.—The author of this enlightening article is the foremost specialist in this particular field. He is a shining example of the sufferer of this condition achieving the unique and commendable position of the master teacher by virtue of his lifelong most intimate grappling with its multiform ramifications.

Infantile cerebral palsy, or spastic paralysis, is the disturbance of motor function due to causes (faulty embryonic development, cerebral hemorrhage during delivery, infection and toxic conditions of the newborn, and other factors) which destroy tissue either before, duriing or after the delivery of the infant.

It is estimated there are between forty and fifty thousand spastics below the age of 21 years and if those above that age were included they would probably total 150,000.

The educational program is made difficult because of motor handicaps, speech disorders, hearing, reading, writing and visual difficulties which frequently accompany this condition. Moreover, the educational set-up does not generally meet the needs of the spastic. He is the most neglected of all crippling conditions in childhood. Whereas there are schools for the child handicapped by poliomyelitis and the deaf, yet in the case of the spastic who is both deaf and crippled, he is not accepted in schools for the cripple because of the hearing defect and is not admitted to schools for the hard of hearing because of the crippling condition. It is obvious that school planning should be established where treatment and special education may be created commensurate with the needs of the child suffering from infantile cerebral palsy.

The effectiveness of educating and rehabilitating the spastic largely depends upon the amount of undamaged brain residue with which to work. The effects depend upon the extent and location of the damage. If the motor cortex fails to develop or there has been extensive extravasation of blood into the substance of the brain, intellectual growth will have been too seriously interfered with to expect any help from treatment. When the disturbance is progressive, the prognosis is likewise poor.

The problem of the spastic is made more difficult by its overlapping and blended types of muscular dysfunction which may occur; spasticity, athetosis and ataxia are chiefly encountered but chorea, intention tremor, and occasionally convulsions are present. In the majority of hemiplegic cases, one is apt to note convulsions.

Likewise, treatment needs to be shaped to the type of muscular disorder predominating, for treatment of athetosis is quite different from that of spasticity or ataxia. Physical improvement that is possible through exercise depends upon growth factors. But no amount of exercise is going to enable the normal infant to walk until his nervous system has attained sufficient growth, which usually occurs at age one year. A certain child with cerebral palsy may have arrested structural development of the brain as far as motor abilities are concerned, and repetition of a physical act will result in no improvement, while in another there may be unlimited possibilities of developing muscular control.

Exercises must be adapted to the individual case and depend largely on the clinical findings. Relaxation and a calm and quiet atmosphere are essential. The *chief aim* of the exercises is to teach the patient to make each active movement with a minimum of muscular effort. Before exercises are started, there should be a preliminary relaxation period. The first exercise should be slow, coordinated, rhythmic forms of movement, beginning with the major groups of muscles, such as those about the proximal joints, shoulder and hip, later including the muscles of the knees and elbows, and finally those of the hands and feet. Of paramount importance is the personality of the teacher whose temperament, disposition and make-up should be conducive to relaxation by reason of a sympathetic understanding of the problems involved and skill in their management.

Usually at first it is better to allow the child to do exercises as best he can, in spite of the fact that he is making erroneous and unessential movements. In the younger child, it is often necessary passively to assist him until he is able to carry out the movements himself. Later incorrect movements may be gradually eliminated. This plan is better than that of restricting activity to simpler movements, with the expectation that the ability so gained will be immediately carried over into the more complicated coordinated acts.

In spastic conditions, flexor muscles are usually more powerful than the extensors, and thigh muscles which bring the legs together are stronger than the opposing groups. Thus the legs become

crossed on each other when the spastic attempts to walk. When he flexes a limb there is usually a powerful simultaneous contraction of both extensors and flexors, and the limb becomes rigid. Treatment attempts to overcome this condition by teaching the patient to relax one set of muscles as the opposing muscle group is brought into action.

The child with scissors gait is taught to spread his legs apart after he has relaxed the muscles that keep them crossed. This may be done while on the treatment table or in the pool. As little assistance as possible from the physiotherapist is given. The latter brings the legs together when the child relaxes. The physiotherapist must not be discouraged for it often requires a long time before the child learns to relax individual muscle groups satisfactory. If it is necessary to stretch a tight muscle group, it should be done gently and when the patient is relaxed, to avoid any muscle spasm. Heat and gentle massage are sometimes helpful for producing relaxation. Stimulating massage is contraindicated because it increases muscle tension.

In ataxia conditions, there is a lack of balanced action between opposing muscle groups, with consequent clumsiness of movement. Slurring of speech, tremor, and the gait rolling or staggering, like that of a drunken man may be seen. Such unsteadiness may be overcome by lending only slight assistance. Since the cortex plays the most important part in voluntary movement, it can be trained to compensate in large measure for defects in the brain that gives rise to ataxia. Such training places a great deal of reliance on vision. The ataxic must look where he walks or focus on the object he is attempting to reach.

Athetosis ("mobile spasm") is characterized by its plastic rather than its spastic type of rigidity, that is, it has no spring to it. It is a stiffnss like that of very dense putty. The limbs assume bizarre shapes. Facial grimaces are common, resembling caricatures of normal facial expressions or the strain seen on the face of the sprint runner or the pole vaulter as he hears the goal. Since the athetoid has better control of his muscular movements, when the factors of fear, anxiety, and self-consciousness are in abeyance, his training is more of an emotional and educational problem than a physical one. Exercises that teach relaxation with growing ability to forget himself in his work or play are fundamental. He should be kept occupied and at the same time his attention should be diverted from his muscles and focused upon the purpose of the act rather than the muscles which perform it. The athetoid must avoid

too many sensory stimuli to which his nervous system has not been accustomed. Anything which reduces the amount of overflow activity is helpful. In this connection, selective use of pin-point blinders which shade the eyes and restrict the visual field are helpful.

Visual training is important for all types of conditions encountered in cerebral palsy. Such a handicapped child tries to look in too many directions at once. This increases his difficulty in correlating muscular activity and perception. For example, in shaking hands he thrusts his hand out aimlessly. If before shaking hands he is asked to look sharply at the thumb of the hand he is trying to reach, he will have no difficulty. Speech is likewise improved when the child focuses his eyes at a certain point in speaking. Thus lip reading is valuable in decreasing adventitious muscular activity.

In talking, the child is likely to put out more energy than he can control, with the result that his speech becomes indistinct. Use of the microphone enables him to speak above a whisper and make himself understood with the least amount of effort, and also results in more clarity. Recently the "mirrophone", which reflects the voice and enables the athetoid to hear the words he has spoken, is valuable in teaching correct enunciation. General improvement of the patient is usually necessary before one can expect much improvement in speech. Ofttimes speech improvement occurs with a successful accomplishment of coordinated muscular movement without special emphasis being placed on speech training itself.

Surgery has a role in a program of muscle training. It is more effective in spastic than in athetoid conditions. Lengthening the heel card, arthrodesis, tendon transplantation, obturator neurectomy, neurectomy of the nerves to the gastrocnemius muscle are helpful, when these procedures are followed up by a thorough program of exercises.

Peripheral operations on nerves and muscle accomplish little for the athletoid. Posterior root section and operations of the Stoeffel type are definitely contraindicative. Stabilization of the ankle or tenotomy of the Achilles tendon, when much athetosis is present, is not often helpful. Use of braces and splints is likewise more helpful in spastic conditions. Except in mild cases of athetosis, they usually aggravate the condition. Wrapping and Ace bandage around the limb controls the writhing movement. In severe cases of athetosis involving one arm, resection of the anterior portion of the corresponding motor cortex has been successful in some cases. Section of the extrapyramidal pathways in the spine has yielded

favorable results in some of the most distressing cases of athetosis.

Drug therapy in cerebral palsy conditions has been entirely unsuccessful. Phenobarbital and bromides should not be used except in convulsive disorders, and then dilantin is the drug of choice, since it diminishes the attack without giving rise to drowsiness as other sedatives do. Any drug which tends to depress the mental activity makes the patient less responsive to treatment. A cup of coffee will often do more good than a sedative. Hyoscin in large enough doses can control muscular spasm also produce confusion. Snake venom, bee venom, and curare produce partial relief of muscular tention for a short time, but seem to have no permanent effect and are highly toxic. It should be pointed out, however, that recent use of curare in spastic children without physical deformity caused a transient relaxing effect which reduced incoordinate athetosis and dysarthria and permitted carrying out therapy under favorable conditions. In some cases, alcohol has an effect in controlling athetosis and spasticity.

Notwithstanding the above mentioned helps in treatment, it must be recognized that the first object in treating the patient is to educate his muscles until some control has been obtained. The cerebral palsied cannot devolp mentally beyond the limits of his motor experience, since he has to translate ideas into muscular activity to grasp them. Academic training is often postponed until this goal has been attained. The mental growth through education is the most important factor in ameliorating his condition. By education is meant the attempt to direct development into proper channels by means of effective stimuli. With growth of intelligence and achievement of ability to concentrate and select and translate sensory impulses and sensations into purposeful action, random and aimless movements are diminished. By education, it is possible to develop the unaffected centers of the brain, and a corresponding improvement of the damaged controls can be effected. Time of day is also a significant factor. Concentration seems to be better in the evening than in the morning as evinced by improved performance of the spastic-athetoid to use his hands. Increase of interest in his surroundings makes for better concentration and likewise diminishes puposeless muscular activity.

Parents should not neglect academic training until the child acquires better control of his hands or speech. Rapid improvement often follows placement in school. Education of the emotions is an important integral part of the educational program since fear, anxiety, and self-consciousness plays a great part in effecting a control over his motions. The muscular disturbances are so inti-

mately tied up with the emotional process that it is difficult to conceive of the disturbance as being something separate from the feelings as it is to think of laughter as being something apart from the emotions which evoked it.

The answer to the problem of the cerebral palsied lies in *education.* But real education implies real hard work and perseverance. The efforts made by the cerebral palsied is the chief factor that counts although the teacher has naturally a constructive and enhancing role to play. Her chief task, however, is to stimulate the child and aid him to select and make better choices and decisions relative to appropriate stimuli so that desired responses may be brought forth and assume effective habit patterns. The unimpaired portions of the brain fix the limits within which responses can be made, but within those limits a vast variety of responses are usually possible. When such responses become habits, they largely determine the physical progress, character, and personality of the cerebral palsied individual. — Abstracted by Frederick L. Patry, M.D., from The Diplomate, June-July, 1943, pp. 201-205, Treatment of Infantile Cerebral Palsy by Earl R. Carlson, M.D. Parts of this paper have been taken from the author's book, BORN THAT WAY, published by John Day & Co., New York, 1921.

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Audiometric Testing—Factors Affecting the Group Test.

1. Instrument not correctly calibrated. The machine should be sent to the company for recalibration and repair periodically.

2. Extraneous noise. Secure the cooperation of the principal and other teachers in the building in eliminating noise. Let the home room teacher accompany her group and help in giving a demonstration of the test.

3. Machine not set up correctly. Be sure all the boxes are connected to each other and to the machine. The machine should be wound tight. Some machines must be wound when half of the record has been played—at a time when the numbers are given in a loud voice. A new full tone steel needle should be used for each playing of the record. The turntable should revolve at a speed of 78-90 revolutions per minute. An alteration in speed varies the pitch and intensity.

4. Scratched records. Records, given good care, can be played from 75 to 100 times. But sometimes records get worn in the middle because the instrument has not been set up in a level place, or they may get scratched or pocked and should be discarded before they are played the estimated number of times.

5. Headphones out of order or not properly adjusted. There is a phonograph record, complex tone, at constant intensity for

checking the receivers. (See Volta Review, January 1930, page 3.) The ear pieces should be wound on tight, the clamp should press the phone toward the ear, and the cord should hang downward. Be sure the hole in the receiver is placed exactly over the auditory meatus of the ear and that the hair is pushed back. If the leather protector on the headphone is gone, place a folded piece of tissue paper under the head band so that it will be more comfortable.

6. Child does not understand directions. A facsimile of the test sheet should be placed on the blackboard. Directions should be concise and fitted to the group being tested. Boys may be motivated by suggesting that they be radio men or airplane pilots. Girls may be telephone operators. Tell them the numbers will get fainter and fainter—demonstrate with you own voice—and let them write a few numbers on the board in the correct position. Stress (1) writing the numbers downward in a column; (2) omitting the numbers they are not sure about; (3) the importance of not erasing; (4) waiting quietly when they no longer hear the numbers.

7. Headphones are uncomfortable. Do not let the children put on the phones until instructions have been given for taking the test and they have been permitted to ask any questions they wish. Case histories should be taken between the testing time for the two ears as this gives a brief rest period.

8. Distraction and inattention. A blotter under the test sheet will help eliminate the noise of the pencils when the numbers get faint. Each child should have two pencils so that he will have a spare if the lead in one of them breaks. The tester and others in the room must not move around while the test is being administered.

9. Mental confusion. If a child makes mistakes, stop at the end of the first column and re-explain. Encourage him to listen even when the numbers become faint. Assure him that he has four chances and that one mistake or some outside noise which bothers him will not affect the test. (The tester should make note of places where extraneous noises affect the test.)

10. Time of day. Check the time of day the test was given and make a note of the children's physical condition, especially if they have colds at the time the test is given.

Papers should be scored by the person who gives the test—not by untrained teachers or W.P.A. workers. Careful observation by the person administering the test, with a check on testing conditions, should enable him to avoid many of the usual discrepancies.

It is expected that about 20% will need to be retested because

of failure on the first test. There will be three times as many pupils fail if papers are screened out on the 9 decibel loss rather than at 12 decibels. One cannot make a blanket statement on scoring, but I should advise you to watch the child showing errors on the 9 decibel level if the test is given in a quiet room. Such children may be potential hard of hearing adults. On the second test 10% is a high proportion to fail at the 9 decibel level.

Advantages of the Group Test:

1. An experienced tester can screen between 500-600 pupils per day. (At the present rate it will take 10 -15 years to test each child once.)

2. It takes less training to administer the group test.

3. The apparatus is more durable than the individal machine and the test does not require a sound proof room.

4. It takes less technical knowledge to interpret and evaluate results.

5. It can be used in rural communities that have no electricity.

Disadvantages of the Group Test:

1. It cannot be used (except as an individual test) with small children who are unable to write the digits from 1 to 10 quickly and accurately.

2. The numbers may be recognized by their duration and loudness apart from pitch.

3. The numbers vary in inherent intelligibility and are not in their intended places.

4. Tests with numbers can be heard 90-100% of the time when nonsense syllables can be heard only 25% of the time.

5. Research workers claim that it does not detect high frequency losses, and detection of higher frequency losses is most important in the prevention of deafness. — Audiometric Testing and the Conservation of Hearing by Ora M. Swartwood. Journal of Exceptional Children, Oct., 1943, p. 8.

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The Preschool Dental Program,—The county of Livingston, N. Y., has organized an oral hygiene program which is yielding positive results in dental education and the correction of dental effects of children of preschool age.

In the November issue of Dental Health, Paul M. Lembcke, M.D., district health officer, describes the program as a direct outgrowth of a state-wide plan inaugurated by the New York State

Department of Health in 1938 with a view to integrating oral hygiene activities in the generalized service for child health.

The first contact with the child is made through child health consultations, known in some states as well baby clinics, which are held chiefly in rural and small urban areas where hospital outpatient clinics are lacking. They are financed in part by the individual counties, 50 per cent of the cost being borne by the State Department of Health, and operate under the general direction of a county public health committee. Detailed supervision is provided by the district health officer and his staff. At each session there is a physician in attendance who makes a physical examination of the infants and children of preschool age. A dental hygienist is present also. Her chief task is to teach the parent of the young child the story of the growth and development of the teeth, current theories of the cause of dental decay, the manner in which dental caries progresses, the importance of early detection and correction of dental defects, and the end-results of neglect. She also teaches the importance of the deciduous teeth and the value of good oral hygiene.

The plan has been carried on to this point in a large number of counties in New York State and the next logical step, a dental corrective service, has not been fully developed in Livingston County.

Child health consultations in Livingston County have had a dental hygienist since 1938 when ten communities received the benefits of her services and instruction. In 1942, twenty-five communities had the services of the dental hygienist and this very well covered the county. While every effort is made to direct children with dental defects to the private dentist for treatment, many come from families that are indigent or from areas where there are no dentists. In 1940, a mobile dental trailer was built to provide service in areas lacking dental personnel.

By arrangement with the County Public Health Committee, this completely equipped, modern dental office on wheels was brought to Livingston County in 1941 for a demonstration program at state expense in areas without resident dentists. In 1942, the program was expanded, still on a demonstration basis at state expense, to provide complete coverage for the county. The trailer continued to serve areas without dentists, but in those communities with such personnel, the dentists agreed to conduct clinics in their offices for dentally indigent preschool age children.

This demonstration convinced the County Public Health Com-

mittee and Board of Supervisors of the desirability of continuing a complete oral hygiene program for preschool children on a permanent basis. Funds (subject to 50 per cent state reimbursement as are similar health expenditures) were provided in the 1943 Livingston County public health budget for a maximum of 120 dental clinics to be conducted by private dentists. In addition, the dental trailer continued to cover the remaining areas at no cost to the county.

Figures are not yet available for the clinic service in 1943 and the complete program has not been in existence long enough to permit a comprehensive analysis of all services rendered. Some idea of the progressive benefits yielded, however, may be gained from the results of the trailer program in the three-year period 1941-43.

In the first series of treatments, 5.2 visits per child were required to take care of accumulated defects, 3.6 visits the second year, and 3.3 visits the third year. The children had their teeth X-rayed annually. The accumulated defects required correction at the rate of 5.7 fillings and 0.5 extractions per child. Incremental defects were corrected at the rate of 4.1 fillings and 0.1 extractions the second year, and 3.0 fillings and 0.0 extractions the third year.

The two- and three-year-old children required more services in the second year of treatment than in the first. This may be explained by the fact that at these early ages the teeth have not been exposed very long to local caries-inducing factors; also, at age two, all of the deciduous teeth may not have erupted.

At age four at the first examination, 5.8 fillings were necessary. This same group, now age five, at their second examination required 4.1 fillings in comparison with 6.3 fillings for five-year-olds at their first examination. At the third examination, the four-year-olds, now age six, required 1.9 fillings in comparison with 6.8 for six-year-olds examined the first time.

With regard to extractions, the four-year-old group averaged 0.5 extractions per child at the first examination; 0.1 at their second examination at age five in comparison with 0.4 for five-year-olds at their first examination, and 0.0 extractions at their third examination at age six, in comparison with 1.1 extractions for six-year-olds at their first examination. Similar comparisons can be made for five- and six-year-old children.

These data demonstrates clearly that periodic care by the dentist is the best known method at present of preventing large

cavities and loss of teeth and the most economical way of meeting dental costs. Ref.—Health News, New York State Department of Public Health, p. 212, Dec. 20, 1943.

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Fundamental Responsibilities of Every Teacher for Pupil and Teacher Health,—The wartime shortage of physicians, dentists, and nurses has increased our awareness of the importance of the teacher in the health program of the school. We are more than ever dependent on the teacher for assistance in the spotting or screening out of pupils in need of special health care.

The war has also heightened our appreciation of the need for more vital, timely, and functional health instruction. As a result many teachers are making special efforts to improve and enrich their health teaching.

The following statement with regard to fundamental responsibilities of every teacher for pupil and teacher health is by no means exhaustive. Special teachers may have many other duties and opportunities related to the health program. This outline was prepared with the thought that it might suggest new avenues of usefulness to those teachers who had not utilized to the full their great opportunities for health teaching and service. We have printed a copy for each of the teachers in our local school system. Whether it will be read and what value it has remains to be seen.

1. To know the health status of each pupil as revealed by
   a. Physician's findings and recommendations.
   b. Home situations reported by school nurse or teacher.
   c. Mental and emotional difficulties as reported by counselor or guidance teacher.
   d. Causes of absence from school, e.g., illness.
2. To co-operate in the health guidance of each pupil by
   a. Adjusting classroom situation to pupil needs, e.g., placement of pupils with visual or hearing defects at front of classroom.
   b. Consideration of pupils with cardiac or other physical weaknesses, e.g., moderation in home work, school and extra-curricular assignments.
3. To observe each pupil carefully daily with respect to health condition by
   a. Alertness for symptoms which might indicate the onset of communicable disease.
   b. Noting abnormal behavior indicative of mental or emotional

maladjustment, such as excessive shyness, fears, pugnacity, suspiciousness, truancy, cruelty, etc.

c. Noting signs of impaired physical health such as fatigue, poor posture, bad color, irritability, etc.

4. To report observations on pupil health to the health co-ordinator or principal, who will arrange for further investigation.
5. To provide experiences and conditions which will develop good posture habits in all pupils.
6. To note carefully any deviation from good health habits and encourage correction by
   a. Classroom instruction.
   b. Personal conference.
   c. Referral of pupil to physician or nurse for further study or advice.
7. To maintain healthful classrooms by attention to health standards of
   a. Ventilation—air in motion but without direct draft.
   b. Heating—classroom temperature of 68° to 70°.
      If the teacher is uncomfortable at this temperature, warmer clothing is suggested.
   c. Lighting—at least 15 foot candle meters on each desk for reading. 25 foot candle meters for sewing and fine precision work.
   d. Seating—feet on the floor, back well supported and arm resting in normal position for writing (adjustable seating).
   e. Good mental hygiene—freedom from tension on part of pupils and teachers through teacher poise and maintenance of pupil interest and normal educational adjustment.
8. To integrate health teaching with the daily instruction at every possible opportunity.
9. To maintain personal health standards and practices which will be an inspiration and guide to the pupils. If you do not feel fit, check your health habits, your sleep, exercise, recreation, food habits, mental attitudes. See your physician. Keep in class record book or register for daily reference. C. Morley Sellery, M.D., Los Angeles.

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American Red Cross.—During March the American Red Cross will raise its 1944 War Fund. A goal of $200,000,000 has been set. This must be met if the Red Cross is to continue its work on an undiminished scale. Let's give!

State Aid and Epidemics,—The comment is made frequently by superintendents of schools that unless schools are closed by the health officer in the presence of an epidemic, the school district may lose a considerable sum of state-aid moneys which are apportioned on the basis of average attendance. This, however, is a misconception as indicated by the following excerpt from the New York State Education Law, Article 18, Section 492, Subdivision 5:

"Whenever school is maintained during the prevalence of an infectious or contagious disease in the community and such prevalence is established to the satisfaction of the Commissioner of Education, he may in his discretion disregard the average attendance of such period in the apportionment of public money, or he may elect to substitute the average attendance of pupils for the year preceding for the period of such contagious or infectious disease."

REVIEW

Fundamentals of Health: *Elizabeth Chant Robertson, M.D., Ph.D.* The Copp Clark Co., Limited, Toronto, 1943, pp. 283. This text is not to be confused with one of a more advanced content, of the same title which has been in use for several years, produced by other authors.

Dr. Robertson has succeeded in combining in an interesting and practical way material on anatomy and physiology with information concerning the steps that should be taken to use profitably that material for the preservation of health and life. For instance, control of hemorrhage is discussed in the same chapter as circulation, which is where it should be instead of being tucked in some remote region under the heading of first aid.

Section II, having to do with the history and development of individual and community health, and historical notes on the great medical health leaders of the past is particularly worthwhile. We pay great attention to military leaders who destroy life, but little to men of science who save it.

The later Sections deal specifically with public health and safety problems.

This text is a worthwhile addition to the material available for use in the rapidly expanding efforts to teach health information.

C. H. Keene, M.D.

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